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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,468	09/27/2000	Kazutomo Hasegawa	FUSA 17.792	7120
26304	7590	06/01/2005	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP			RYMAN, DANIEL J	
575 MADISON AVENUE			ART UNIT	
NEW YORK, NY 10022-2585			PAPER NUMBER	

2665

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/671,468	HASEGAWA ET AL.	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges the filing of an RCE on 5/4/2005.
2. Applicant's arguments filed 5/4/2004 have been fully considered but they are not persuasive. On page 6 of the Response, Applicant asserts that "the phase transition Transmitted [sic] by Qureshi's [sic] modem is not directed to specifying a crosstalk interval, but rather to establish synchronization for identifying subsequent training sequences (see, e.g., column 4, lines 37-40)." Examiner, respectfully, asserts that Applicant is arguing against references individually when the rejection is based on a combination of references. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Here, Long teaches that the timing information is determined by modems at the office side, and then distributed to the other modems (col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 15); however, Long does not disclose how this distribution occurs. Qureshi discloses transmitting timing information in a training-symbol sequence (col. 4, lines 10-44) where it is implicit that this is done in order to synchronize the receiver to the timing of the transmitter prior to data communication. Therefore, the *combination* of Long and Qureshi suggests transmitting a training symbol sequence in which timing information, which specifies a crosstalk interval, is incorporated.
3. On page 6 of the Response, Applicant further asserts that "one skilled in that art would lack sufficient motivation to combine the teachings of Long and Qureshi [sic] in a manner that suggests Applicant's claimed invention." Examiner, respectfully, disagrees.

4. As outlined above, Long teaches that the timing information is determined by modems at the office side, and then distributed to the other modems; however, Long does not disclose how this distribution occurs. Qureshi teaches transmitting synchronization information in a training sequence where it is implicit that this is done in order to synchronize the receiver to the timing of the transmitter prior to data communication. Therefore, Examiner asserts that one of ordinary skill in the art would have been motivated to combine the teachings of Long and Qureshi in a manner that suggests Applicant's claimed invention.

5. For the above reasons, Examiner maintains the rejection of claims 13-22.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long et al (USPN 5,991,311) in view of Qureshi et al (USPN 4,756,007).

8. Regarding claims 13, 18, and 22, Long discloses a digital subscriber line transmission method, apparatus, and system for transmitting downstream data from a device on an office side to a device on a subscriber side and upstream data from the device on the subscriber side to the device on the office side over a single line by switching between these data transmissions in time-division fashion, dividing data of one symbol, modulating carrier waves having different frequencies by each item of divided data and frequency-multiplexing the modulated signals, and transmitting the frequency-multiplexed signals in bursts a few symbols at a time (col. 4, lines 20-

Art Unit: 2665

61 and col. 6, lines 25-57), said method comprising the steps of and said apparatus and system comprising means for: a cable for accommodating said line as a first line (DSL line) and another line as a second line (ISDN line) on which transmission of downstream data and transmission of upstream data are performed in time-division fashion (col. 4, lines 20-61 and col. 6, lines 25-57); a training-symbol transmitting unit for transmitting a training symbol via said first line at time of training carried out prior to data communication (col. 11, line 54-col. 12, line 4); and a training-symbol receiving unit for receiving a training symbol via said first line (col. 11, line 54-col. 12, line 15) where it is implicit that a receiving unit is present; said transmitting unit including: timing-information determining means for determining timing information, which specifies an interval in which effects of crosstalk from said second line are received (col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 15), and transmitting means for transmitting the timing-information to the receiving unit at a time carried out prior to data communication (col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 15) where it is implicit that the timing information is determined prior to data communication; and said receiving unit includes: means for extracting the timing information (col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 15); and a processor for executing processing based upon this timing information (col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 15).

Long does not disclose said training-symbol transmitting unit includes:

timing-information insertion means for inserting timing information, which specifies an interval in which effects of crosstalk from said second line are received, into a training symbol sequence at time of training carried out prior to data communication; and means for transmitting the

Art Unit: 2665

training symbol sequence into which the timing information is inserted from the device on the office side to the device on the subscriber side; and said training-symbol receiving unit includes: means for extracting the timing information from the training symbol sequence; and a processor for executing training processing based upon this timing information. Rather Long discloses that the timing information is determined by modems at the office side, and then distributed to the other modems (col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 15); however, Long does not disclose how this distribution occurs. Qureshi discloses, in a modem communication system, a training-symbol transmitting unit including: timing-information insertion means for inserting timing information, into a training symbol sequence at time of training carried out prior to data communication (col. 4, lines 10-44); and means for transmitting the training symbol sequence into which the timing information is inserted (col. 4, lines 10-44); and a training-symbol receiving unit including: means for extracting the timing information from the training symbol sequence (col. 4, line 10-44); and a processor for executing training processing based upon this timing information (col. 4, lines 10-44) where it is implicit that this is done in order to synchronize the receiver to the timing of the transmitter prior to data communication. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a training-symbol transmitting unit including: timing-information insertion means for inserting timing information, which specifies an interval in which effects of crosstalk from said second line are received, into a training symbol sequence at time of training carried out prior to data communication; and means for transmitting the training symbol sequence into which the timing information is inserted from the device on the office side to the device on the subscriber side; and said training-symbol receiving unit includes:

Art Unit: 2665

means for extracting the timing information from the training symbol sequence; and a processor for executing training processing based upon this timing information in order to transmit the timing information of the crosstalk periods to the receiving modem so that synchronization can occur before data communication.

9. Regarding claims 14 and 19, Long in view of Qureshi discloses that when said second line is a line which transmits data by switching between transmission of the downstream data and transmission of the upstream data in time-division fashion, the timing information indicates a reference timing for switching between transmission of the downstream data and transmission of the upstream data in time-division fashion in the second line (Long: col. 4, lines 20-61; col. 6, lines 25-57; col. 11, lines 3-10; and col. 11, line 54-col. 12, line 1).

10. Regarding claims 15, 20, and 23, Long in view of Qureshi discloses that the timing information is incorporated in the training symbol sequence by varying the phase of training symbols (Qureshi: col. 4, line 10-44).

11. Regarding claims 16 and 21, Long in view of Qureshi discloses that the phase of adjacent symbols constructing a training symbol sequence is varied by 90° or 180° (Qureshi: col. 4, line 10-44).

12. Regarding claim 17, Long in view of Qureshi discloses that a carrier wave of a predetermined frequency is quadrature modulated and the phase between adjacent symbols obtained by quadrature modulation is varied (Long: col. 13, lines 16-25 and Qureshi: col. 4, line 10-44).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ungerbock (USPN 5,353,280) see abstract which discloses transmitting timing information in the training sequence. Gluska et al. (USPN 5,541,967) see abstract which discloses synchronizing modems using a training sequence. Olafsson (USPN 6,212,247) see abstract which discloses synchronizing modems using a training sequence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
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